

Date: Fri, 25 Mar 94 04:30:13 PST  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #79  
To: Ham-Ant

Ham-Ant Digest                      Fri, 25 Mar 94                      Volume 94 : Issue    79

Today's Topics:

                    144/440 antenna ideas?  
                                Attic Dipole  
                    Battle creek special info needed !!  
                    CELLULAR PHONES-How increment reception?  
                    Designing Ferrit-Antennas for TX/RX (2 msgs)  
                                Discone vs 5/8 wave for 2m packet?  
                                glass mounted cb antenna?  
                                Impedance of Ethernet Coax  
                    Motorola GPS engine group purchase update  
                                Question about hatch lip mounts (2 msgs)  
                    Question about mobile antenna 40/80m (2 msgs)  
                                RF systems MLB  
                                Umbrella

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Thu, 24 Mar 1994 17:50:40 GMT  
From: rit!sunsrvr6!jdc@cs.rochester.edu  
Subject: 144/440 antenna ideas?  
To: ham-ant@ucsd.edu

Having joined the dual-band HT set, I'm looking for info on  
building two antennas: one to replace the rubber duckie, and  
something for the car. The ARRL Antenna Book has the discone,  
which isn't suitable for either application, but not much else.  
(I actually built a discone antenna. It would be quite a sight

on top of the car, or attached to the top of an HT...)

Any ideas? I was thinking of a 1/4 or 5/8 wave cut for 2-meters, perhaps with a coil in the middle to isolate the top section at 440. But the 5/8 wave's matching coil would mess things up at 440.

I examined a commercial dual band mag mount. The bottom section is 15", with a 3-turn 3/4" diameter coil, then a 19" top section. There was no DC continuity between the whip and coax center conductor, just a small amount of capacitance. The meter gave a dead short reading from whip to coax cable shield, so it must have been a coil.

What is this beast? Is this the oft-rumored 1/2 wave? If so, how does the impedance matching work at both 2-meters and 440?

73...Jim N2VNO

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Date: 24 Mar 94 19:53:12 GMT  
From: ihnp4.ucsd.edu!swrinde!emory!news-feed-2.peachnet.edu!umn.edu!dawn.mmm.com!mmm.com!tobin@network.ucsd.edu  
Subject: Attic Dipole  
To: ham-ant@ucsd.edu

Troyce@bio.tamu.edu (Troyce) writes:

>Living in a duplex, I can't put an outside antenna up, so I have been  
>considering designs involving hiding a dipole in the attic. I have about  
>50 feet of length to work with. Right now I am considering a trap dipole  
>for 10-80 meters, 82' long. This would entail running 50 feet straight  
>across the peak of the attic roof, then sloping down 16 feet on each end.  
>I know this is certainly not an optimum configuration, but is it still a  
>viable method? If the bend ends are a big problem, I do have the  
>alternative of a 45 foot 10-40 meter dipole, but would like the option of  
>80 meter use (for when I upgrade to general from Tech plus).

>Troyce  
>KC5CBI

As one who lived in many apartments for many years (back in my youth)  
I will offer what experience I had.

First, the most important thing to remember is that anything will work...  
It's just a matter of how well.

Second, anything is better than nothing.

Third, try it! That is half the fun a amateur radio, the chance to experiment.

Having said that, my preference ended up being a random length wire... as long as I had room for, as high as I could get it... matched with a L-type matching network. (look in the ARRL antenna handbook, or regular handbook) For best results you need a decent ground, but it will work without one. I operated on 80meters from a second floor room while in college and it worked ok. Just don't touch your lips to a metal microphone or the Chassis... they are hot without a good ground. Bend the ends around to get as much wire up as possible.

Thin, hard copper-coated steel electric fence wire, 26 gauge I think, makes a great antenna wire. It is very hard to see, doesn't stretch much and is cheap. I used it for the above mentioned 2nd floor room. Oh, one pointer. I ran it from my window to a fellow ham's house across the street. It's important if you are running across a street to make sure it is higher than a semi truck's exhaust pipes. Mine wasn't. One night I was laying in bed and and I heard rrrrrrr-RRRRR-PING! and my antenna was gone... probably in Georgia by now.

The method you mention will work. Bending the ends will upset the resonance point and raise the VSWR some, but it will probably be acceptable. Try to keep it as straight as possible.

Hope this helps some

Steve WA0ODF

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Date: 24 Mar 1994 11:21:56 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!EU.net!sun4n1!news.nic.surfnet.nl!  
tuegate.tue.nl!blade.stack.urc.tue.nl!esrac@network.ucsd.edu  
Subject: Battle creek special info needed !!  
To: ham-ant@ucsd.edu

Hello there,

The HAM club of the University of Technology of Eindhoven is going on its FIRST dx-pedition to HB0 around the IARU HF Championship Contest in July this year.

We will set up a HF-VHF-UHF station on top of a mountain at 2010 meters above sealevel. The plateau is about 18 by 8 meters. After hearing so many good reports on the BATTLE CREEK SPECIAL being used successfully by some major dx-peditions we decided to use that antenna on the low bands. Going

through various antenna books has not brought up any info on that antenna.

So we would appreciate any detailed info on the Battle Creek Special.

Many thanks in advance!

73 from Aurelio-PA3EZL operator at PI5EHV and PI4TUE

ax25 packet mail to: PA3EZL@ON4UBO.LG.BEL.EU

e-mail to: esrac@stack.unc.tue.nl

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ESRAC - Eindhoven Student Radio Amateur Club |  
EH 13.19 PI5EHV/PI4TUE | Kom naar de ECHTE hemel van  
email: esrac@stack.unc.tue.nl | electro!!!  
BBS-mail: PI5EHV @ PI8ZAA |  
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Most important operators: PA3EZL PE1PCP

Do a 'finger esrac@blade.stack.unc.tue.nl' for more information.

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Date: 24 Mar 1994 02:42:03 -0500

From: hp81.prod.aol.net!search01.news.aol.com!not-for-mail@uunet.uu.net

Subject: CELLULAR PHONES-How increment reception?

To: ham-ant@ucsd.edu

In article <brett\_miller.52.00101D0D@ccm.hf.intel.com>,  
brett\_miller@ccm.hf.intel.com (Brett Miller - N70LQ) writes:

>Most rural areas use non-sectored cell sites so this should NOT be a problem  
>the fringe of a rural area.

I don't see how sectoring affects the problem I'm discussing, unless you're  
calling "sectoring" what I'm calling "frequency reuse".

If you have no reuse in a rural area, then yeah, yagi's fine. That's not  
inconsistent with my comments. It's when your yagi can see two (or more)  
cochannel cells at more-or-less the same distance that problems will occur.  
Cells could be cochannel whether they're omni or sectored.

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Date: 24 Mar 1994 14:11:11 GMT

From: usc!howland.reston.ans.net!pipex!uknet!EU.net!Germany.EU.net!netmbx.de!

zrz.TU-Berlin.DE!cs.tu-berlin.de!zib-berlin.de!news.belwue.de!news.uni-

stuttgart.de!rz.uni-karlsruhe.@ihnp4.ucsd.edu

Subject: Designing Ferrit-Antennas for TX/RX

To: ham-ant@ucsd.edu

Hi there, this is Peter DH1IAR,

are there any good books, papers or any other form of information  
abt designing Ferrit-Antennas which are usable for TX and RX ?  
Favorite frequency area should be in 10-50KHz.

tnx es 73 de Peter

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Date: Thu, 24 Mar 94 21:05:00 -0800  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!library.ucla.edu!csulb.edu!  
paris.ics.uci.edu!news.claremont.edu!kaiwan.com!ledge!bob.albert@network.ucsd.edu  
Subject: Designing Ferrit-Antennas for TX/RX  
To: ham-ant@ucsd.edu

I doubt that ferrite is a good material to use in a transmitting  
antenna. Due to its nonlinear magnetic characteristics, it will  
cause detuning and, worse, harmonic generation.

73 DE K6DDX

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Date: Thu, 24 Mar 1994 08:47:09  
From: ihnp4.ucsd.edu!swrinde!gatech!news-feed-1.peachnet.edu!hobbes.cc.uga.edu!  
kcs.rx.uga.edu!kcs@network.ucsd.edu  
Subject: Discone vs 5/8 wave for 2m packet?  
To: ham-ant@ucsd.edu

I just got on packet for the first time last nite, and find that I'm marginal  
into the local BBS. I'm using an Antenna Specialists "Discan" antenna which I  
originally used for a scanner, but which I have recently used quite  
successfully on 2 meter FM - I can hit repeaters out to about 40 miles or so  
with a 5 watt HT. A/S says "not for transmitting" but the SWR appears ok and  
I doubt I'll burn the antenna up on 5 watts. I have a 5/8 ground plane  
available, which promises something like 3.6 db gain. I believe that a  
discone is supposed to be unity gain. So the question is, will there be  
enough difference between these antennas to make the trip to the roof worth  
while? I doubt 3.6 db would get me solid in something I wasn't hitting at  
all, but will it likely improve a marginal situation? I'd like to put up  
something bigger or perhaps a beam, but I have covenant problems and need to  
stay real low profile.

Any comment, advice, etc. will be appreciated.

73 de N4NFI

Ken Schroder  
Logistical Support Manager  
The University of Georgia  
College of Pharmacy  
Athens, Georgia 30602

e-mail: kcs@rx.uga.edu  
phone : (706) 542-5295  
FAX : (706) 542-5269

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Date: Fri, 25 Mar 1994 05:52:26 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!torn!blaze.trentu.ca!TrentU.CA!  
JCOOPERMAN@network.ucsd.edu  
Subject: glass mounted cb antenna?  
To: ham-ant@ucsd.edu

I've got a real problem, I recently bought a glass mounted cb antenna for my car, the cellular phone model except for CB units. I've installed the thing correctly but cannot get a match for either my 23 or 40 channel cb's. I hooked it up to a match meter but cannot get the thing below 2.5.....I've tried adjusting the whip with an allen key so that it would slid further down into the housing of the antenna...the problem is that it does not go any further into the antenna. I'm wondering if I should clip a little off the bottom of the whip so it is a bit shorter and thus will go deeper into the antenna assembly.....any ideas...should I cut it a bit or should I do something else....I'm wondering if I shorten the length of the coax lead will it get a better match.....I don't know that much about cb's so any advice would be cool.

thanks ...and keep your sticks on the ice.  
Joe.

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Date: Thu, 24 Mar 1994 11:56:47 -0500  
From: ihnp4.ucsd.edu!usc!yeshua.marcam.com!hookup!ukma!hsdndev!NewsWatcher!  
user@network.ucsd.edu  
Subject: Impedance of Ethernet Coax  
To: ham-ant@ucsd.edu

There seem to be two separate uses of coax in computer networking. The most common seems to involve rg58/59 type with a terminator at the end

and coax tee feeds to individual users. I am told that 52 ohm cabling is the standard for "thinnet" type connections. There MAY also be a separate standard for long runs between routers with larger 0.5-1.0 inch coax between machines, routers, etc. Is this typically 52 or 75 ohm cable? I have been told that the larger cables are typically 75 ohm.

Thanks

Frank K1MOQ

--

Frank H. Duffy, MD	e-mail: duffyfr@a1.tch.harvard.edu
Neurology, Childrens Hospital	workstation: fhd@fhd486.harvard.edu
& Harvard Medical School	FAX: (617) 735-7230
300 Longwood Avenue	voice: (617) 735-7919 / 7846
Boston, MA 02115 USA	amateur radio: K1MOQ

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Date: 25 Mar 1994 00:47:53 GMT  
From: ihnp4.ucsd.edu!usc!elroy.jpl.nasa.gov!wp-sp.nba.trw.com!  
newswire.etdesg.TRW.COM!wayne@network.ucsd.edu  
Subject: Motorola GPS engine group purchase update  
To: ham-ant@ucsd.edu

(lot of stuff deleted)  
> Motorola GPS core engine

What is a GPS core engine?

--wayne W5GIE

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Date: Sun, 20 Mar 1994 13:04:41 GMT  
From: ihnp4.ucsd.edu!swrinde!gatech!darwin.sura.net!perot.mtsu.edu!raider!  
theporch!jackatak!root@network.ucsd.edu  
Subject: Question about hatch lip mounts  
To: ham-ant@ucsd.edu

kerry@Ingres.COM (Kerry Kurasaki) writes:

> Any net consensus on how the radiation pattern is distorted if a 5/8 wave  
> is mounted using a lipmount on the R or L side edges of a trunk?  
I am not sure that pattern distortion is as much the issue with a  
mount such as you propose...

The \*best\* solution is to drill a hole, use an NMO mount, and relax  
and enjoy hamming.

All the normal worries about devaluing the car for resale have been

anecdotally addressed here. The NMO is an industry standard mount and renders your vehicle "Cellular Ready" when sold.... One guy even told of a friend, major league Fox-Hunt DF type who cut a "huge" hole in the roof for rotatable arrays...when he told the dealer about the hole in the roof, the response wasn't even lukewarm, and didn't change the value 1cent: "So?"

> Or are most of the effects not really worth worrying about?  
If you worry about not doing as well as you might, drill the hole.  
Drive your car to a mall and let a few people slam their doors into  
your new car, and then carefully drill the hole. It doesn't bother as  
much if teh car isn't totally brand new, cherry... ;^)

73

Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657 -- all from the mobile! ;^)

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+-----+
| Jack GF Hill          |Voice: (615) 459-2636 -           Ham Call: W4PPT |
| P. O. Box 1685        |Modem: (615) 377-5980 -   Bicycling and SCUBA Diving |
| Brentwood, TN 37024  |Fax:   (615) 459-0038 -           Life Member - ARRL |
| root@jackatak.raider.net - "Plus ca change, plus c'est la meme chose" |
+-----+
```

Date: 24 Mar 94 20:25:03 GMT  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!cs.utexas.edu!  
swrinde!sgiblab!rtech!ingres!kerry@network.ucsd.edu  
Subject: Question about hatch lip mounts  
To: ham-ant@ucsd.edu

In article <i7LHJc1w165w@jackatak.raider.net> root@jackatak.raider.net (Jack GF Hill) writes:

>kerry@Ingres.COM (Kerry Kurasaki) writes:

 $\succ$ 

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>> Any net consensus on how the radiation pattern is distorted if a 5/8 wave
>> is mounted using a lipmount on the R or L side edges of a trunk?
>I am not sure that pattern distortion is as much the issue with a
>mount such as you propose...
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 $\succ$ 

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>The *best* solution is to drill a hole, use an NMO mount, and relax
>and enjoy hamming.
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[lotsa stuff deleted]
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While drilling the hole is the best solution, your post still did not answer my question.

After talking to a few elmers, their impression was that the ground plane



effect of the body was less and less the higher in frequency you went.  
I've now concluded that it is a non-issue.

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Date: Sun, 20 Mar 1994 13:18:15 GMT  
From: ihnp4.ucsd.edu!swrinde!gatech!darwin.sura.net!perot.mtsu.edu!raider!  
theporch!jackatak!root@network.ucsd.edu  
Subject: Question about mobile antenna 40/80m  
To: ham-ant@ucsd.edu

kg7bk@indirect.com (Cecil Moore) writes:

> But I wonder about a bumper-mounted 5/8 vs a top-of-pickup-cab  
> mounted 1/4 wave on 10m.  
> I've heard that the bumper mount loses a more than negligible amount of power  
> because of the parallel car body. I've also heard that a 5/8 without a  
> large ground plane directly underneath is inferior to a 1/4 wave with a  
> large ground plane directly underneath.

First, may I examine the hypothesis: a 1/4 with a large ground  
plane...and mounted on the roof of a pickup truck? Wait one!

The roof of a pickup truck does NOT extend out in ANY direction for  
8 1/2 feet...hence there is NO large ground plane. Unless you bond the  
pickup truck together VERY carefully, you do not have an effective  
groundplane at all...

As for the 5/8 wave bumper mount... Granted that reactances are  
frequency dependent, but a 1/4 on 75M operating over virtually NO  
ground can not be dismissed as irrelevant when talking about a 10M 5/8  
wave operating over a \*slightly\* better ground.

My point is, Cecil, that NEITHER the 1/4 wave truck mount NOR the 5/8  
bumper mount is operating over anything approaching a "good" ground  
plane...and hence, the 5/8 wave (NO traps) would seem to have an  
advantage (significant?) over the 1/4 wave, whether a full 8 1/2 foot  
whip or trapped/loading unit.

> Have you ever made any field strength  
> measurements directly in front of the car vs directly behind it?  
> I'll bet I radiate more energy directly ahead on 10m than you do  
> (running the same power).

Well, I do not work for anyone with great instrumentation, nor do I  
have a range for making those measurements. That said, just the  
intuitive feel of your claim doesn't fit, so I guess I'll take your  
bet... wanna meet at Dayton and take some measures??? ;^) Love to see  
you there, antenna measuring not withstanding... ;^)

73,





- how many wires should I use (perhaps 4) ?

2) Coil loading, because the mast is of PVC the coil can be placed anywhere, however:

- what is the optimal position of the load coil (mid ?)
- what are optimal length/dimension ratios of the coil ?

3) Both toploading and coil ?

Any suggestions are welcome.

Dirk.

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End of Ham-Ant Digest V94 #79  
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